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10/748,915	12/19/2003	Jose Perotti	KSC-12386	8416

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NASA JOHN F. KENNEDY SPACE CENTER
MAIL CODE: CC-A/OFFICE OF CHIEF COUNSEL
ATTN: PATENT COUNSEL
KENNEDY SPACE CENTER, FL 32899

EXAMINER	
NGUYEN, KHAI MINH	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,915	PEROTTI ET AL.	
	Examiner	Art Unit	
	Khai M. Nguyen	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2,7-25 and 30-46* is/are rejected.

7)☒ Claim(s) *3-6 and 26-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-46 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 7-11, 24-25, 30-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Larsen et al. (U.S.Pub-20010036810).

Regarding claim 1, Larsen teaches a method for communicating between at least a first wireless central station (fig.2 and 8) and a plurality of wireless remote stations in a wireless instrumentation system (fig.2 and 8, paragraph 0006) comprising the steps of:

transmitting information from said central station (fig.2 and 8, base station (node B) to said remote stations through a plurality of wireless links (fig.2 and 8, mobile station MSa, MSb and MSc, paragraph 0026-0027, 0032);

determining whether one or more of said remote stations (fig.2 and 8, mobile station MSa, MSb and MSc), has become a lost station due to a communication failure

between said central station (fig.2 and 8, base station (node B)) and said lost station (fig.2 and 8, paragraph 0014, claim 3);

identifying from said central station (fig.2 and 8, base station (node B)) at least one of said remote stations that can act as a relay station (paragraph 0166) that can relay information from said central station to said lost station or to another of said remote stations that can also act as a relay station (paragraph 0026-0027, 0166); and

transmitting information between said central station (fig.2 and 8, base station (node B)) and said lost station via said one or more relay stations (fig.2 and 8, paragraph 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3).

Regarding claim 2, Larsen teaches the method of claim 1, wherein said step of determining whether one or more of said remote stations has become a lost station comprises:

transmitting one or more polling signals from said central station to said remote stations (fig.2 and 8, paragraph 0026); and

identifying one or more of said remote stations from which a reply to said polling signal has not been received by said central station as a lost station (fig.2 and 8, paragraph 0026-0027).

Regarding claim 7, Larsen teaches the method of claim 1, wherein if at least one of said remote stations are identified as lost stations (fig.2 and 8, paragraph 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3), then said steps of identifying and transmitting comprise:

identifying at least one of said remote stations that can act as a first relay station (fig.2 and 8, paragraph 0166, 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3) and communicate both with said central station and a first of said lost stations (fig.2 and 8, paragraph 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3), said first lost station being selected as one that can act as a second relay station that can communicate both with a second of said lost stations and said first relay station (fig.2 and 8, paragraph 0166, 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3); and

transmitting information between said central station and said second lost station using said first and second relay stations (fig.2 and 8, paragraph 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3).

Regarding claim 8, Larsen teaches the method of claim 7, wherein the step of transmitting employs a first transmit/receive communication frequency pair between said central station and said first relay station (fig.2 and 8, abstract, paragraph 0006), a second transmit/receive communication frequency pair between said first relay station and said first lost station (fig.9, relay node MSc (forward between nodeB-MSc, MSc-MSb and MSb to Msa), paragraph 0199-0206), and a third transmit/receive communication frequency pair between said first lost station and said second lost station (fig.9, relay node MSc (forward between nodeB-MSc, MSc-MSb and MSb to Msa), paragraph 0014, 0166, 0199-0206, claim 3).

Regarding claim 9, Larsen teaches the method of claim 1, wherein each of said remote stations is associated with a measurement sensor and can send sensor measurement data back to said central station (fig.9, relay node MSc (forward between nodeB-MSc, MSc-MSb and MSb to Msa), paragraph 0166, 0199-0206, claim 3).

Regarding claim 10, Larsen teaches the method of claim 9, wherein said remote stations each include a processor for analyzing measurement data generated by said sensor (fig.2 and 8, paragraph 0032-0033).

Regarding claim 11, Larsen teaches the method of claim 9, wherein each of said remote stations is modular in construction and includes a power module (paragraph 0008), a transceiver module and a custom module (paragraph 0008), said custom module being selected in accordance with a particular sensor associated with the remote station (paragraph 0014).

Regarding claim 24, Larsen teaches a wireless instrumentation system comprising:

at least one central station (fig.2 and 8, nodeB) including an RF transceiver and a controller (fig.2 and 8, nodeB has antenna and connected to RNC); and

a plurality of remote stations (fig.2 and 8, mobile station MSa, MSb and MSc, paragraph 0026-0027, 0032) for transmitting communications to and receiving communications from said central station (fig.2 and 8, paragraph 0026-0027, 0032), each said remote station including an RF transceiver and a controller (mobile station (cell phone or PDA or laptop) included transceiver and CPU);

wherein, said central station controller (fig.2and 8, nodeB and RNC) is programmed to:

determine whether any of said remote stations has become a lost station due to a communication failure between said central station and said lost station (fig.2 and 8, paragraph 0014, claim 3);

identify at least one of said remote stations that can act as a relay station (fig.2 and 8, paragraph 0166, 0232-0235 (radio parameters and the neighbors information NID_1, NID_2 and NID_n), claim 3) that can relay information from said central station to said lost station or to another of said remote stations that can also act as a relay station (paragraph 0166); and

transmit information between said central station and said lost station via said one or more relay stations (fig.9, relay node MSc (forward between nodeB-MSc, MSc-MSb and MSb to Msa), paragraph 0014, 0166, 0199-0206, claim 3).

Regarding claim 25 is rejected with same the reasons set forth in claim 2.

Regarding claim 30 is rejected with same the reasons set forth in claim 7.

Regarding claim 31 is rejected with same the reasons set forth in claim 8.

Regarding claim 32 is rejected with same the reasons set forth in claim 9.

Regarding claim 33 is rejected with same the reasons set forth in claim 10.

Regarding claim 34 is rejected with same the reasons set forth in claim 11.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-23 and 35-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen et al. (U.S.Pub-20010036810) in view of Tuomainen et al. (U.S.Pat-7020102).

Regarding claim 16: Larsen teaches a method for communicating between one or more wireless central stations (fig.2 and 8, nodeB) and a plurality of wireless remote stations (fig.2 and 8, mobile station MSa, MSb and MSc, paragraph 0006), comprising the steps of:

periodically transmitting information from said central station to said remote stations (fig.2 and 8, mobile station MSa, MSb and MSc, paragraph 0026-0027, 0161);

Larsen fails to specifically discloses operating one or more of said remote stations in first and second alternating power modes, said modes including a low power mode during which said remote station transceiver is not operating and a power up mode during which said transceiver is operating, said controller being programmed to control said power modes such that said remote station is operated in a repeating cycle of said low power mode for a first selected period of time followed by said power up mode for a second selected period of time as long as no information is being received from said central station, but if during said power up mode, said controller detects that information is being received form said central station, said controller maintains said remote station in said power up mode until said remote station transceiver has received said information, said controller has processed said information and said transceiver

has sent a reply back to said central station, after which said controller switches said remote station back to said low power mode for said first selected period of time. However, Tuomainen teaches operating one or more of said remote stations in first and second alternating power modes (fig.1-2, abstract, col.5, lines 39-67), said modes including a low power mode during which said remote station transceiver is not operating and a power up mode during which said transceiver is operating (fig.1-2, abstract, col.5, lines 39-67), said controller being programmed to control said power modes such that said remote station is operated in a repeating cycle of said low power mode for a first selected period of time followed by said power up mode for a second selected period of time as long as no information is being received from said central station (fig.3-4, abstract, col.5, lines 5-67), but if during said power up mode (fig.3-4, abstract,), said controller detects that information is being received form said central station (fig.1-2, abstract, col.5, lines 39-67), said controller maintains said remote station in said power up mode until said remote station transceiver has received said information (fig.3-4, abstract, col.7, lines 45-60), said controller has processed said information and said transceiver has sent a reply back to said central station (col.6, lines 27-43), after which said controller switches said remote station back to said low power mode for said first selected period of time (fig.3-4, abstract, col.5, lines 5-67, col.6, lines 27-43). Therefore, it have been obvious to one having ordinary skill the art at the time the invention was made to apply the teaching of Tuomainen to Larsen to reduce the power consumption of the mobile station.

Regarding claim 39: Larsen teaches a wireless instrumentation system (fig.1-2), comprising:

at least one central station (fig.2 and 8, nodeB) including an RF transceiver and a controller (fig.2 and 8, nodeB has antenna and connected to RNC); and

a plurality of remote stations (fig.2 and 8, mobile station MSa, MSb and MSc, paragraph 0006) for transmitting communications to and receiving communications from said central station (fig.2 and 8, paragraph 0026-0027, 0032), each said remote station including an RF transceiver and a controller (mobile station (cell phone or PDA or laptop) included transceiver and CPU);

wherein, said central station controller (fig.2and 8, nodeB and RNC) is programmed to transmit information from said central station to said remote stations (fig.9, relay node MSc (forward between nodeB-MSc, MSc-MSb and MSb to Msa), paragraph 0014, 0166, 0199-0206); and

Larsen fails to specifically discloses each said remote station controller is programmed to operate said remote station in first and second alternating power modes, said modes including a low power mode during which said remote station transceiver is not operating and a power up mode during which said transceiver is operating, said controller being programmed to control said power modes such that said remote station is operated in a repeating cycle of said low power mode for a first selected period of time followed by said power up mode for a second selected period of time as long as no information is being received from said central station, but if during said power up mode, said controller detects that information is being received form said

central station, said controller maintains said remote station in said power up mode until said remote station transceiver has received said information, said controller has processed said information and said transceiver has sent a reply back to said central station, after which said controller switches said remote station back to said low power mode for said first selected period of time. However, Tuomainen teaches each said remote station controller is programmed to operate said remote station in first and second alternating power modes (fig.1-2, abstract, col.5, lines 39-67), said modes including a low power mode during which said remote station transceiver is not operating and a power up mode during which said transceiver is operating (fig.1-2, abstract, col.5, lines 39-67), said controller being programmed to control said power modes such that said remote station is operated in a repeating cycle of said low power mode for a first selected period of time followed by said power up mode for a second selected period of time as long as no information is being received from said central station (fig.3-4, abstract, col.5, lines 5-67), but if during said power up mode (fig.3-4, abstract,), said controller detects that information is being received form said central station (fig.1-2, abstract, col.5, lines 39-67), said controller maintains said remote station in said power up mode until said remote station transceiver has received said information (fig.3-4, abstract, col.7, lines 45-60), said controller has processed said information and said transceiver has sent a reply back to said central station (abstract, col.6, lines 27-43), after which said controller switches said remote station back to said low power mode for said first selected period of time (fig.3-4, abstract, col.5, lines 5-67, col.6, lines 27-43). Therefore, it have been obvious to one having ordinary skill the art at

the time the invention was made to apply the teaching of Tuomainen to Larsen to reduce the power consumption of the mobile station.

Regarding claims 12 and 35, Tuomainen and Larsen further teach the method of claims 1 and 24,

one or more of said remote stations in first and second alternating power modes (see Tuomainen, fig.1-2, col.5, lines 39-67), said modes including a low power mode during which said remote station transceiver is not operating and a power up mode during which said transceiver is operating (see Tuomainen, fig.1-2, col.5, lines 39-67), said controller being programmed to control said power modes such that said remote station is operated in a repeating cycle of said low power mode for a first selected period of time followed by said power up mode for a second selected period of time as long as no information is being received from said central station (see Tuomainen, fig.3-4, col.5, lines 5-67), but if during said power up mode (see Tuomainen, fig.3-4), said controller detects that information is being received form said central station (see Tuomainen, fig.1-2, col.5, lines 39-67), said controller maintains said remote station in said power up mode until said remote station transceiver has received said information (see Tuomainen, fig.3-4, col.7, lines 45-60), said controller has processed said information and said transceiver has sent a reply back to said central station (see Tuomainen, col.6, lines 27-43), after which said controller switches said remote station back to said low power mode for said first selected period of time (see Tuomainen, fig.3-4, col.5, lines 5-67, col.6, lines 27-43).

Regarding claims 13 and 36, Tuomainen and Larsen further teach the method of claims 12 and 35, wherein said first and second selected time periods are adjustable either by said controller in said remote station or by a controller in said central station (see Tuomainen, fig.1-2, col.5, lines 39-67).

Regarding claims 14 and 37, Tuomainen and Larsen further teach the method of claims 12 and 35, wherein at least one of said remote stations includes modules that can be selectively operated by said controller during said low power mode and said power up mode (see Tuomainen, fig.3-4, col.5, lines 5-67, col.6, lines 27-43).

Regarding claims 15 and 38, Tuomainen and Larsen further teach the method of claims 12 and 35, wherein said central station is programmed to send information to each of said remote stations repeatedly until said remote stations acknowledge receipt of said information (see Tuomainen, col.6, lines 63-67).

Regarding claims 17 and 40, Tuomainen and Larsen further teach the method and system of claims 16 and 39, wherein said first and second selected time period: are adjustable either by said controller in said remote station or by a controller in said central station (see Toumainen, fig.3-4, col.5, lines 5-67, col.6, lines 27-43).

Regarding claims 18 and 41, Tuomainen and Larsen further teach the method and system of claims 16 and 39, wherein at least one of said remote stations includes modules that can be selectively operated by said controller during said low power mode and said power up mode (see Toumainen, fig.3-4, col.5, lines 5-67, col.6, lines 27-43).

Regarding claims 19 and 42, Tuomainen and Larsen further teach the method and system of claims 16 and 39, wherein said central station is programmed to send

information to each of said remote stations repeatedly until said remote stations acknowledge receipt of said information (see Toumainen, col.6, lines 63-67).

Regarding claims 20 and 43, Tuomainen and Larsen further teach the method and system of claims 16 and 49, wherein each of said remote stations is associated with a measurement sensor and can send sensor measurement data back to said central station (see Toumainen, fig.6-7, col.2, lines 28-47).

Regarding claims 21 and 44, Tuomainen and Larsen further teach the method and system of claims 20 and 43, wherein at least one of said remote stations includes a processor for analyzing measurement data generated by said sensor (see Toumainen, fig.6-7, col.2, lines 28-47).

Regarding claims 22 and 45, Tuomainen and Larsen further teach the method of claims 16 and 39, wherein each of said remote stations is modular in construction and includes a power module (see Toumainen, fig.3-4, col.5, lines 5-67, col.6, lines 27-43), a transceiver module and a custom module said custom module being selected in accordance with a particular sensor associated with the remote station (see Toumainen, fig.6-7, col.2, lines 28-47).

Regarding claims 23 and 46, Tuomainen and Larsen further teach the method of claims 22 and 45, wherein said controller is programmed to selectively power up any of said modules (see Toumainen, fig.3-4, col.5, lines 5-67), depending upon information received from said central station (see Toumainen, fig.3-4, col.5, lines 5-67, col.6, lines 27-43).

Allowable Subject Matter

5. Claims 3-6 and 26-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph feild can be reached on 571.272.4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JEAN GELIN
PRIMARY EXAMINER

Khai Nguyen
Au: 2617

11/3/2006